

Power Schottky Rectifier with common cathode

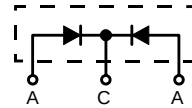
$$I_{FAV} = 2 \times 10 \text{ A}$$

$$V_{RRM} = 130 \text{ V}$$

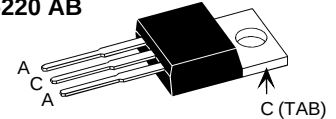
$$V_F = 0.65 \text{ V}$$

Preliminary Data

V_{RSM}	V_{RRM}	Type
V	V	
130	130	DSSK 20-013A
150	150	DSSK 20-015A



TO-220 AB



A = Anode, C = Cathode, TAB = Cathode

Symbol	Conditions	Maximum Ratings	
I_{FRMS}		35	A
I_{FAV}	$T_C = 165^\circ\text{C}$; rectangular, $d = 0.5$	10	A
I_{FAV}	$T_C = 165^\circ\text{C}$; rectangular, $d = 0.5$; per device	20	A
I_{FSM}	$T_{VJ} = 45^\circ\text{C}$; $t_p = 10 \text{ ms}$ (50 Hz), sine	200	A
E_{AS}	$I_{AS} = \text{tbd A}$; $L = 180 \mu\text{H}$; $T_{VJ} = 25^\circ\text{C}$; non repetitive	tbd	mJ
I_{AR}	$V_A = 1.5 \cdot V_{RRM}$ typ.; $f = 10 \text{ kHz}$; repetitive	tbd	A
$(dv/dt)_{cr}$		18000	V/ μs
T_{VJ}		-55...+175	$^\circ\text{C}$
T_{VJM}		175	$^\circ\text{C}$
T_{stg}		-55...+150	$^\circ\text{C}$
P_{tot}	$T_C = 25^\circ\text{C}$	105	W
M_d	mounting torque	0.4...0.6	Nm
Weight	typical	2	g

Features

- International standard package
- Very low V_F
- Extremely low switching losses
- Low I_{RM} -values
- Epoxy meets UL 94V-0

Applications

- Rectifiers in switch mode power supplies (SMPS)
- Free wheeling diode in low voltage converters

Advantages

- High reliability circuit operation
- Low voltage peaks for reduced protection circuits
- Low noise switching
- Low losses

Symbol	Conditions	Characteristic Values	
		typ.	max.
I_R ①	$T_{VJ} = 25^\circ\text{C}$ $V_R = V_{RRM}$ $T_{VJ} = 125^\circ\text{C}$ $V_R = V_{RRM}$		0.5 mA 5.0 mA
V_F	$I_F = 10 \text{ A}$; $T_{VJ} = 125^\circ\text{C}$ $I_F = 10 \text{ A}$; $T_{VJ} = 25^\circ\text{C}$ $I_F = 20 \text{ A}$; $T_{VJ} = 125^\circ\text{C}$		0.65 V 0.79 V 0.72 V
R_{thJC}			1.4 K/W
R_{thCH}	0.5		K/W

Dimensions see outlines.pdf

Pulse test: ① Pulse Width = 5 ms, Duty Cycle < 2.0 %
Data according to IEC 60747 and per diode unless otherwise specified

IXYS reserves the right to change limits, Conditions and dimensions.

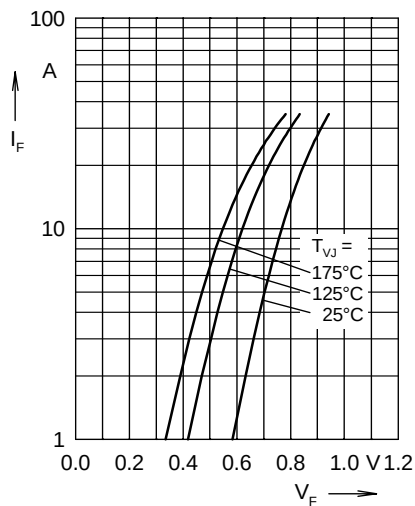


Fig. 1 Maximum forward voltage drop characteristics

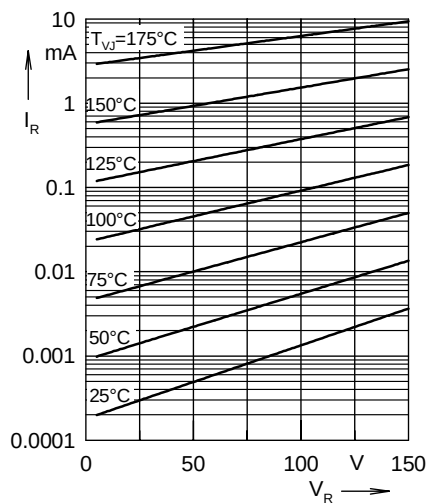


Fig. 2 Typ. value of reverse current I_R versus reverse voltage V_R

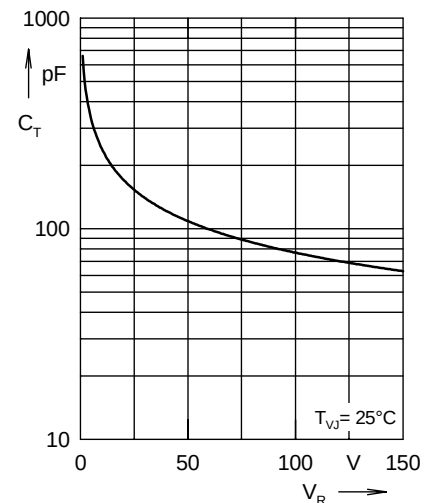


Fig. 3 Typ. junction capacitance C_T versus reverse voltage V_R

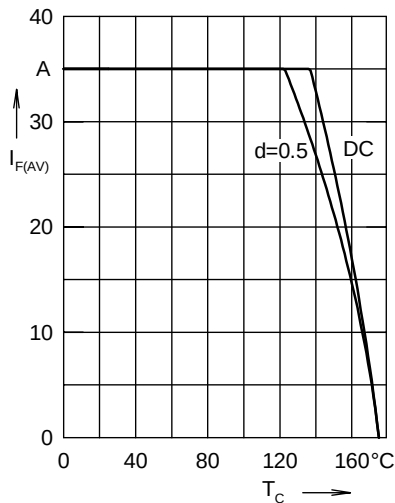


Fig. 4 Average forward current $I_{F(AV)}$ versus case temperature T_C

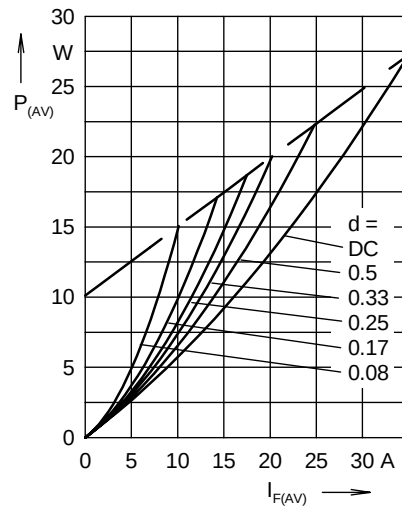


Fig. 5 Forward power loss characteristics

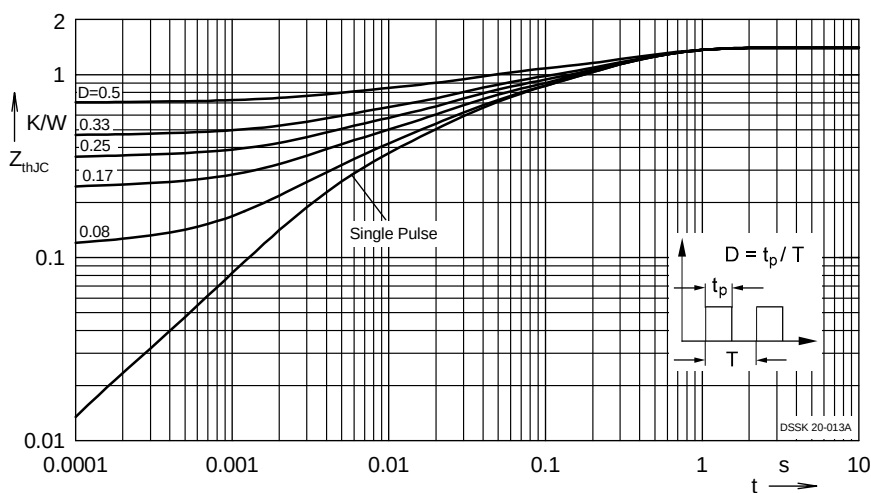


Fig. 6 Transient thermal impedance junction to case at various duty cycles